

What is Claimed is:

1. An arrangement for the contamination-free processing of reaction sequences, comprising:

- at least two reaction vessels open to the top, arranged next to one another and connected to one another,
- an individual closure element per reaction vessel with a closure section for the tight sealing of the aperture of the reaction vessel and an actuating section for engagement at the individual closure element, and
- a closure carrier covering all the reaction vessels or groups of reaction vessels, each with a socket for the actuation section of each individual closure element for securing the individual closure element to the closure carrier,

whereby the individual closure elements secured to the closure carrier can be placed onto the reaction vessels such as to form a seal, and can be drawn off them, wherein

the closure sections of the individual closure elements are capable of being inserted through the sockets in the closure carrier in both directions, and

the individual closure elements are secured to the closure carrier in such a way that, with the closure carrier placed on the reaction vessels with individual closure elements, each individual closure element can be individually removed from the closure carrier and from the reaction vessel.

2. The arrangement according to Claim 1, wherein the reaction vessels are arranged on a microtitre plate.
3. The arrangement according to Claim 1 or 2, wherein the individual closure elements are secured to the closure carrier by a releasable positive-fit connection between the actuation section and the socket.

4. The arrangement according to Claim 3, wherein the positive-fit connection is designed such that when the individual closure element is inserted in the socket, a slight lateral displacement of the individual closure device in the socket is permitted.
5. The arrangement according to Claim 4, wherein the positive-fit connection is a bayonet closure element.
6. The arrangement according to Claim 5, wherein the positive-fit connection comprises a tenon part arranged at the individual closure element and the link section of the positive-fit connection is arranged at the closure carrier.
7. The arrangement according to Claim 6, wherein the positive-fit connection is a bayonet closure element, capable of actuation in both directions of rotation, and comprises a latch element which can be overcome.
8. The arrangement according to Claim 3, wherein the positive-fit connection is a quick screw connection.
9. The arrangement according to Claim 3, wherein the positive-fit connection is a snap connection.
10. The arrangement according to Claim 1 or 2, wherein the individual closure elements are secured to the closure carrier a non-positive connection between the actuation section and the socket.
11. The arrangement according to Claims 1, wherein the individual closure elements comprises a closure handling device for engaging an actuation tool which serves to handle a single individual closure element.
12. The arrangement according to Claim 11, wherein the closure handling device is a positive-fit element, to which an appropriate positive-fit element on the actuation tool corresponds.

13. The arrangement according to Claim 12, wherein the closure handling device comprises a link part, and the positive-fit connection element at the actuation tool comprises a tenon part, of a bayonet closure device.
14. The arrangement according to Claim 13, wherein the bayonet closure after establishment of the bayonet closure engagement, a rotation of the individual closure element inserted in the socket is permitted in both directions of rotation.
15. The arrangement according to Claim 11, wherein the closure handling device comprises a quick screw connection.
16. The arrangement according to Claim 11, wherein the closure handling device comprises a snap connection.
17. The arrangement according to Claim 11, comprises the closure handling device comprises a non-positive fit element, to which a corresponding non-positive fit element on the actuation tool corresponds.
18. The arrangement according to Claim 3, wherein the positive-fit closure connection or non-positive fit connection is arranged on the outside at the actuation section of the individual closure element and the closure handling device is arranged on the interior at the individual closure element.
19. The arrangement according to Claim 1, wherein the closure section of the individual closure element overlaps the reaction vessel.
20. The arrangement according to Claim 1, wherein the closure section of the individual closure element enters into the reaction vessel to form a plug.
21. The arrangement according to Claim 1, wherein the closure section comprises a camber facing downwards.
22. The arrangement according to Claim 1, wherein the closure section comprises a membrane section which can be penetrated.

23. The arrangement according to Claim 1, wherein the securing section of the individual closure element consists of a relatively hard, rigid plastic material, and the closure section is a material fit therewith and consists of a relatively soft rubber-elastic plastic material.
24. The arrangement of Claim 23, wherein the soft rubber-elastic plastic material is a thermoplastic elastomer.
25. The arrangement according to Claim 23, wherein the securing section comprises a central passage point, which extends as far the closure section.
26. The arrangement according to Claim 1, wherein the individual closure elements and the closure carrier consist of relatively hard, rigid plastic material.
27. A closure carrier comprising individual closure elements for an arrangement one socket each for an actuation section of an individual closure element for securing the individual closure element to the closure carrier, wherein the formation of the sockets as positive-fit elements of a positive-fit connection or as a non-positive fit element of a non-positive fit connection.
28. The closure carrier according to Claim 27, wherein the positive-fit connection is designed such that when the individual closure element is inserted in the socket, a slight lateral displacement of the individual closure device in the socket is permitted.
29. The closure carrier according to Claim 28, wherein the positive-fit connection is a bayonet closure element.
30. The closure carrier according to Claim 29, wherein the positive-fit connection comprises a tenon part arranged at the individual closure element and the link section of the positive-fit connection is arranged at the closure carrier.
31. The closure carrier according to Claim 30, wherein the positive-fit connection is a bayonet closure element, capable of actuation in both directions of rotation, and comprises a latch element which can be overcome.

32. The closure carrier according to Claim 27, wherein the positive-fit connection is a quick screw connection.
33. The closure carrier according to Claim 27, wherein the positive-fit connection is a snap connection.
34. An individual closure element for a reaction vessel of an arrangement for the contamination-free processing of reaction sequences, comprising a closure section for the seal-tight closure of an aperture of a reaction vessel allocated thereto, and an actuation section for the engagement and handling of an individual closure element, wherein the actuation section is a positive-fit closure element of a positive-fit connection or a non-positive closure element of a non-positive connection.
35. A storage and dispensing arrangement for individual closure elements for an arrangement for the contamination-free processing of reaction sequences, comprising an individual closure element having a positive-fit formation at an actuation section, wherein the positive-fit formation at the actuation section of the individual closure element interacts with a positive-fit formation at the storage and dispensing arrangement in such a way that the individual closure elements can be issued in a predetermined and specific lateral direction from the storage and dispensing arrangement.
36. The arrangement according to claim 11, wherein the actuation tool is an active tool of an industrial robot that comprises a fixation for carrying the reaction vessels.
37. The arrangement according to Claim 10, wherein the positive-fit closure connection or non-positive fit connection is arranged on the outside at the actuation section of the individual closure element and the closure handling device is arranged on the interior at the individual closure element.